THE

VETERINARY JOURNAL

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JULY, 1938

Biography

THE PRINCIPALSHIP OF THE ROYAL (DICK) VETERINARY COLLEGE

No appointment will ever have given greater satisfaction to the members of the veterinary profession than that which was made a few days ago by the Board of Governors of the Royal (Dick) Veterinary College, Edinburgh, when they unanimously elected Col. Sir Arthur Olver to the position of Principal. As the son of a well-known breeder of pedigree cattle, and the nephew of a very esteemed and much respected member of the profession, Mr. Harry Olver, F.R.C.V.S., of Tamworth, Sir Arthur started his veterinary career under the most auspicious circumstances. His study of animal husbandry and love for veterinary work literally commenced in his earliest days, and that it has remained with him until now is evidenced by the brilliant attainments which have marked the whole of his career, which has been crowned by the appointment to the Principalship of one of the greatest of our educational colleges.

XUM

When one looks through his record one almost wonders how, although 62 years of age, he has crowded so much, and done such good work for his profession, in so comparatively short a time. His college teachers remember him as a very earnest student whose word was his bond, and upon whom the greatest reliance could always be placed.

Graduating from London in 1897 and taking his Fellowship in 1909, he joined the Veterinary Corps and served in the South African War, for which he was awarded the Queen's Medal and five clasps, being seconded to the Egyptian Army for service in Egypt and the Sudan until 1907. In 1908 he acted as Assistant Director-General of the Army Veterinary Services, and in the Great War was twice mentioned in despatches, being awarded a C.M.G. and C.B. In 1917 he was appointed Deputy Director of Veterinary Services on the British Remount Commission, serving in America and India, returning to the latter country in 1928 as Deputy Director of Veterinary Services. From this office he retired in 1930 to take up the position of Animal Husbandry Expert of the Imperial Council of Agricultural Research in India. The work which he has done there has been invaluable to India not only from the veterinary aspect but also from the point of view of agriculture, for which he has done so much to improve the Indian breeds of cattle. His knighthood was in the Honours List at the Coronation of King George VI, an honour which gave unanimous satisfaction to his friends and colleagues in the veterinary profession.

It is due to Sir Arthur Olver that the Animal Husbandry Department of India has been handed over to the control of the Indian Civil Veterinary Services. His genial capabilities as a man of tact and an administrator of great experience will have full scope in the new position which he has undertaken, and we can safely surmise that the great work which Principal Bradley has laid on such a firm foundation will find a worthy supporter in his successor.

Editorial

VISITS TO THE CONTINENTAL VETERINARY SCHOOLS

The International Veterinary Congress, which is to be held at Zurich and Interlaken between August 21 and 27, will give an opportunity to those who desire to see some of the continental veterinary schools—either on the way there or on the return journey—and the article by Major Burndred which we are publishing in this month's issue of a visit to the veterinary

colleges in Czechoslovakia will give some idea of the welcome from our foreign colleagues which awaits the Englishman in any of these places.

A large party of our American visitors have already decided upon this course, and their tour includes a very extended itinerary which, however, keeps them away from home for a much longer time than the general practitioner can legitimately spare. The National Veterinary Association gave them a very warm welcome on July 22, as they were in London from that date until the 30th, when they continued their journey to Berlin, Leipzig, Dresden, Munich, Budapest, Vienna, Venice and Milan, arranging to be at Zurich on August 20. At most of these places there is a veterinary college. Arrangements are being made to visit each one, and also various abattoirs which in themselves illustrate how animals are dealt with whose flesh is intended for the food of man.

Particulars and the cost of these tours can be obtained from the American Express Co., 6, Haymarket, London, W., who are the official travel agents for the Congress. For those who are unable to be away from England so long, there are other tours arranged of a much shorter duration, and considerably less in cost, some of which include a leisurely sightseeing tour on the way home.

General Articles

THE PROBLEM OF PARASITIC INFESTATION

By ERNEST GRAY, M.R.C.V.S., F.R.M.S.

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THE internal parasites of animals are responsible for several well-defined diseases and a number of more obscure ones. They constitute a formidable problem to the practitioner, and also to the laboratory clinician who may be called in to aid him.

Whilst parasites are responsible for so much ill-health, as Taylor of the Ministry and others have pointed out it is by no means easy always to determine exactly how important their presence in the body may be.

One of the commonest specimens sent into a veterinary laboratory such as that at the above institute is a sample of fæces. It may be sent by a practitioner or a farmer, and is usually accompanied by a note that it is from one or more animals which do not appear to be thriving. The actual examination of the material is simple enough, but a correct reading of the findings is frequently obscure. Animals whose fæces are packed with worms

XUM

or worm eggs may be in perfect health, whilst others in which relatively few are found waste and die, and at post-mortem are found suffering from acute gastritis or enteritis, thousands of worms being present in scrapings taken from the walls of the stomach and/or intestines. It is possible, however, to lay too much stress on this point: animals always contain some parasites, but their presence in large numbers indicates that the worms are taking hold and death or chronic disease will follow, and drastic treatment is imperative. This is often borne out by the case history before and after the examination. On the other hand, it may be suspected that some primary agent has allowed the parasites to invade and destroy the tissues.

On the Institute farms five months ago a flock of lambs were unthrifty and alternately costive and scouring. Two died and post-mortem showed them to be suffering from parasitic gastro-enteritis. Hæmonchoid worms were present in the rumen contents of one, 5,700 per gram of rumen contents.

The lambs and the ewes, their mothers, were dosed with 1 per cent. copper sulphate. One ewe died, and post-mortem revealed fatty degeneration of the liver and atrophy of the duodenal wall.

A fæcal count revealed the presence of Hæmonchoid worms, 1,900 per gram of fæces. As fæces are more concentrated than rumen contents, this figure was taken as indication that the dosing with copper sulphate had been effective, the ewe dying from chronic toxæmia.

Recently a visit was paid to a personal friend who has a sheep farm on the Essex marshes. During 1937 he suffered heavy losses from parasites, but this year he appeared to be free. He had had no deaths amongst the lambs, either during lambing or after, and the sheep of all ages looked bright and sound, their wool was crisp and greasy, and appetite good. A worm count on a sample of fæces from a flock of lambs showed, however, Hæmonchoid worms present, in the enormous number of 112,000 per gram.

Subsequent dosage of the flock with copper sulphate and nicotine sulphate caused the expulsion of large numbers of Hæmonchoid and Strongyle worms, and also tapeworms.

The most curious feature in this case was that all the sheep of all ages appeared perfectly healthy, quite unlike the lambs at the Institute farm, which were thin and dropsical, yet had fewer parasites in their fæces. The question of some obscure primary factor present on the Institute farms appeared to be ruled out by an analysis carried out by the chemical department on the water drunk by the sheep on the second farm. This was from dykes, and contained 404 parts of sodium chloride per 100,000 of water—171 grains of salt to the gallon, the normal percentage of salt being 1 grain per gallon.

More recently another young ewe died on the Institute farm. Post-mortem showed the bronchi to be filled with froth, and the rumen contents

were salmon pink in colour and contained 16,500 Hæmonchus worms and 24,000 Strongyle eggs present in one gram of rumen contents. Eggs had not previously been found in any of the stomach contents or fæces examined; one lamb had been infested with the Hoose Worm Strongylus filaria, but in this last case Strongyles were present in relatively enormous numbers, floating in the stomach contents.

Summary

It would appear that the presence of Hæmonchus worms in the fæces is an indication that sheep are becoming parasitised.

The number lessens as they burrow into the gastric and intestinal walls.

The damage they cause to the endothelial lining and sub-mucous coats allows the larger Strongyles to penetrate these and pass into the body. Those which have passed through the body tissues and completed their life cycle pair and lay eggs. Thus the number of Strongyle worms and the quantity of their eggs increases progressively in numbers, whilst the Hæmonchoid worms decrease as the endothelial linings die and become necrotic.

Infection takes place through the ingestion of contaminated pastures. The longer sick sheep remain on the ground, the more heavily will they become parasitised. Thus for practical purposes the obscure primary factors often hinted at as paving the way for parasitic infestation can be ignored; for the healthiest sheep or animal cannot resist the insidious penetration of worms such as the Hæmonchoid when these persistently pass in large numbers through its alimentary canal.

The writer suspects that the same factors are at work in the parasitisation of poultry. The problem of worm infestation in poultry is frequently said to be one for the breeder; i.e., birds must be bred for stamina to resist worm infection. It is often said in support of this that birds will (appear to) recover from parasitisation.

But no bird, however healthy, can resist for ever capillaria which sew themselves into its duodenal lining, or Ascaria which bruise and shatter the endothelium with their pointed heads and tails, when the eggs of these are for months or years picked up from infected ground and hatching out in its intestine.

To a cobbler there is nothing like leather; to a toxicologist there is nothing like an exhumation; and to a veterinary pathologist there is nothing to equal a post-mortem. In his laboratory he finds repeatedly in poultry the wreckage caused by worms or coccidia which were once present, but are now absent, or present only in small numbers. And the same factors and the same agents doubtless play their part in parasitic infestation of all animals.

XUM

A VETERINARY SURGEON IN CZECHOSLOVAKIA

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LAST year I had the good fortune to have arranged for me a very interesting and instructive tour in Czechoslovakia. My host—Mr. Voda, of Brno—was in touch with municipal and government departments, and, as a result, a tour was arranged in which I was able to see much more than the ordinary tourist.

I am glad to have this opportunity to express my admiration for this people, who, since receiving their freedom, have shown how capable and progressive they are.

The appended notes can only give a vague idea of the conditions which I saw, but they may show to others, as they showed to me, what a new country which is full of patriots, with intense love of their country, may accomplish in what is, after all, such a short period of time.

On my arrival at Brno I found an invitation card awaiting me, which read as follows:—

"Commander of the 3rd Division General Antonin Hassal, representing the land Military Commander in Brno, has much pleasure in inviting you to a Festal Review, which is conducted in celebration of the 20th Anniversary of the battle at Zborov, 2nd July, 1937, at 9.30 a.m. at Kralovo-polske Military Exercise Ground in Brno. This invitation card allows the holder to enter the Special Grand Stand."

The Review was held in fine weather and was very impressive. All sections of troops, infantry, artillery, signals, lines of communications, anti-aircraft, machine gun corps, air force tanks, cavalry, etc., horses and horsemanship pleased me very much.

The Veterinary High School at Brno is the State Veterinary College and has the status of a University.

In Czechoslovakia there are four types of High School:—

1. University—from which students graduate M.U.DR., Y.U.DR., Ph.DR., R.N.DR.
2. Veterinary High School—M.V.DR.
3. Technical High School—Ing.DR.
4. Commercial High School—(Com.Ing.).

The Veterinary High School is an independent High School with the

character of a University, and with similar rights and privileges as the other Faculties of the Universities.

Students must attend for ten terms and pass three State examinations. The extent of study is the same as for human medicine.

The ten terms are divided into two parts :—

1. The preparation part, lasting four terms, during which students are obliged to attend lectures and exercises in eight subjects with an obligatory minimum of hours weekly.
2. The real Veterinary clinical study lasting six terms; students are obliged to attend lectures and exercises in 16 subjects with an obligatory minimum of hours weekly. As an entirely new subject, lectures on Military Veterinary medicine have been introduced.

Students, having covered the four terms, have to spend two weeks at least at an estate belonging to the school, and one week at least at the Diagnostic and Serotherapeutic Institute at Ivanovica na Hané. After passing the seventh term, they spend one month at least in the slaughterhouse and two weeks in the State Institute for examining food. After the tenth term the student is obliged to go for one month with the district Veterinary Surgeon.

At present the school is housed in an old barracks which has been well adapted. A large new building with lecture rooms, museum, etc., has recently been erected, but this is not yet fully equipped.

There is a riding school, various clinics, lecture theatres, operating rooms, stables, kennels, etc.

The Director, Dr. Pardubsky, acted as guide, and at the end of our visit insisted that we should toast the Veterinary profession in the two countries, coupling with it the name of Sir Fredk. Hobday, who visited the school three or four years ago. The toast was drunk in Black & White, proudly brought from a locked cupboard in which were concealed other and even more potent drinks. He is fond of England and the English and showed me amongst other books Wooldridges Encyclopedia.

While at the school I saw carcases of guinea pigs affected with Tularæmia.

The professor in charge of shoeing and stable management showed me his collection which was very extensive and complete, and insisted on presenting me with a book written by himself on the horse's foot, and a full-sized chromium-plated horse shoe with a rubber bar across the heels stamped PROF. DR. A. HANSLIAN.

As I visited the school during the vacation I was not able to see work in progress, but the equipment for lectures, including very excellent diagrams, operating theatres with their equipment, stables, kennels, etc., convinced me that under the able guidance of Dr. Pardubsky the future Dr. of Veterinary

XUM

Medicine in Czechoslovakia, was given a training to serve him in good stead in his profession.

The installation of the Rector, Dr. Pardubsky for the present Session, took place on November 30, 1937, and I was honoured with an invitation to be present to meet the Pro. Rector Dr. Macek and the Rector, but it was not possible to travel so far. The Rector's lecture was "The Regenerating Operation on Organisms which are Growing Old."

The Serological Institute at Ivanovice

The territory of the Czechoslovakia Republic, which during the Great War was only partly hinterland, and therefore driven through by army transport, was, after the War, heavily infested with animal diseases. There were no diagnostic or serological institutions, so that the people, and, indeed, the veterinary surgeons, looked on helplessly while disease was rampant.

The new State was fortunate that three experts came back from the War—Dr. Karel Macek, Dr. Josef Pulkrabek and Dr. Frank Sevcik. Dr. Macek, realising that in the chaos of the early days after the War there was nothing to do in Prague, started an institute at Hranice in Moravia, for the production ot vaccinating material. In January, 1919, he commenced immunising horses and in April of the same year had erysipelas serum available. After a short interruption from 1920 to 1922, which the institution spent in Prague, it was removed finally to Ivanovice na Hané in Moravia. From 1921, Dr. Macek, as head of the Serological Institute, has raised it so far that it is able to fulfil almost all its tasks. With this result and with a well-trained staff available, Dr. Macek was able to leave Ivanovice for the Veterinary College at Brno to build the new pathological and anatomical institute. The State Serological Institute is housed at an adapted Castle which was bought from the Crown Prince of Bavaria for Hc.2,000,000. It is quite self supporting, the castle and equipment having been paid for out of income. Examination of infected material is made without charge, and the running expenses are covered by the income from the sale of sera and vaccines, which reach up to 150,00 litres yearly, a large part of which is for swine erysipelas. The Institute produces all kinds of vaccinating material and through its use the infections which threatened agriculture were gradually suppressed. Glanders, rabies, anthrax and swine erysipelas have ceased to be widespread. In 1935 a new and separate institute was built to deal with swine fever.

Dr. Macek has always taken the view that the control of animal diseases should be in the hands of the State so that no private institutions are allowed. All the specialists in the Institute are Czechoslovakian citizens. The staff includes twelve Doctors of Veterinary Medicine and 70 employees. At the Institute farm there are 180 horses, 20 cattle, 20 sheep, 145 pigs, together with large number of guinea pigs, rats and mice, and rabbits.

XUM

The Abattoir at Prague

The present Abattoir at Prague was opened in 1895 and the private slaughterhouses were gradually closed down. Nobody in Greater Prague is allowed to slaughter except in the Abattoir and all meat coming into Prague must pass through the Central Abattoir to be examined by a veterinary surgeon before it can be sold to the public. It is intended to remove the present Abattoir to the outskirts so that no improvements are now taking place.

There are two entrances, one for the Meat Market and the other for the Abattoir, and placed between is the caretaker's house, together with the exchange with a restaurant, administrative buildings, pay boxes, etc. Only employees, business people and buyers can enter on working days between 7 and 17 hours; in between no one is allowed to remain in the Abattoir except the persons in charge. Only urgent slaughter can take place at any time. On Sundays and holidays there are a few service men to look after the cooling aparatus.

In the Cattle Market there is accommodation for about 570 cattle in lairages, and there is also a large open space where animals are tied. There is also a covered market accommodating 200 head of cattle and further lairage for over 1,000 head of cattle. The market for pigs and small animals is divided by a street. Similar provision is provided to that in the cattle market. There is a special room called " Pohodnice " (a room used for confiscations and animals that die) and from here they are taken away by a " Pohodny " (special man for that purpose only). In the market and outside pens it is possible to accommodate 6,000 pigs. There is a special building for the sale of food, which after the veterinary examination is certified to be of less value and which is sold under certain conditions. It is not permissible to sell more than 6 lbs. to a person and the sale is conducted under the direct supervision of a veterinary surgeon. This meat cannot be resold.

The transport of animals is mainly by a branch line of the railway, but they are also driven and carried by horse or motor vehicle. As soon as animals arrive they are examined by a veterinary surgeon. If they are healthy they go to the lairages or directly to the Abattoir for slaughter. If disease is suspected the animal is killed and sent away according to instructions. All cattle are branded on the face or tail; pigs are marked with coloured letters.

The Abattoir has old and newer portions and at the time of my visit they were contemplating improvements in the pig slaughtering halls with electrical stunning.

In the new Meat Market the equipment is modern with overhead runways. There is also extensive cooling accommodation and storage. Large animals are stunned by a hand humane killer, firing a free bullet or a Schermer captive bolt. Smaller animals were stunned by a blow with axe or mallet. There is a certain amount of Kosher killing. Veterinary surgeons carry out the meat

XUM

inspection. There is a special slaughterhouse for horses with eight killing stations, fitted similarly to those for cattle. Tripe and guts are dealt with in special buildings.

The Prague Abattoir and Cattle Market is a Municipal undertaking under the control of a Veterinary Director who is appointed by a Committee. In addition to the Director there are 17 veterinary surgeons; six accountant clerks; one market commissary; six lower clerks; 150 employees such as cleaners, doormen, weighing machine men, engineers, etc., and there are seven policemen.

There is a modern building, well equipped for laboratory purposes, and, as is usual on the Continent, special provision is made for the examination of all pork before issue, by means of the trichinoscope.

A most interesting visit was made to the farm at Chrlice, from which my host's household obtained its milk supply. The cows are all tuberculin tested; 70 cows were housed in a light and airy double cowshed, tail to tail, with feeding passages at their heads. The walls in front of the cows were tiled; mangers were concrete with individual water bowls; standings of brick, well grouted, and remainder of floor concrete; hoppered windows on both sides of the building, and overhead runways for fodder and for manure. The cows were numbered on the horn. Tying was by double chains from front of manger. All new cows are isolated for three months; there were nine so isolated at the time of my visit. The cows are turned out each day for one hour. The farm buildings were arranged in a square, round a very spacious yard, and the manure bay was covered and with concrete floor, well away from the yard. The cows were well bedded with straw and were very clean.

Before milking commences a woman washes each cow all over and she is followed by another woman who washes each udder. The cows are milked by hand and the cow's tail is fixed to the left leg during milking. To avoid contamination in handling, the milking stool is strapped to the milker's body. There is one leg to the stool and when the milker is walking this leg sticks out behind. The milkers wear white overalls and wash their hands between each milking. They milk into half-covered buckets. The milk from each cow is taken up steps to a recess at the end of the cowshed, where it is poured through the wall over the cooler which is mechanically cooled.

The cows arrive at the farm newly calved and giving not less than 15 litres. They remain two to three years still milking. When giving less than ten litres they are sold.

They prefer a Hereford type of cow, which they say is resistant to tuberculosis.

Utensils are sterilised with steam and electric motors are used for the bottle brushes.

The cows' feed consisted of malt culms, soya meal, bran, palm nut, green maize, vetch and sliced turnip.

The Government Thoroughbred Stud Farm at Napajedla

The improvement of the Czechoslovakian Turf continues. They have now removed one of the greatest ills—shortage of horses. The race meetings continue to show more attendance, but the number of starters in individual races is still very small. The Stud Farm at Napajedla is housed at an old castle, and the stables are those which belonged to the castle. At the time of my visit there were about 18 mares and two stallions—Simson and Corvus.

Simson is by Sanscrit out of Sister.

SIMSON

Sister				Sanscrit			
Fancy		Slieve Galleon		La Sage		St. Frusquin	
Finesse	Matchbox	Reclusion	Gallinule	Sagitta	Jeddah	Isabel	St. Simon

Corvus is by Dagor out of Braut von Corinth.

CORVUS

Braut Von Corinth				Dagor			
Maid of Corinth		Kottingsbrun		Roquette		Flying Fox	
Sceptre	Cyllene	Komam-esszony	Pardon	Roque-brune	Chaleu-reux	Vampire	Orme

The stud farm with its small number of mares was not capable of producing sufficient foals that racing yearly requires, and after my visit, Dr. Michal, the Director, came over to France, England and Ireland to purchase infoal mares and mares with foals at foot. There are now about 45 mares, including the following new purchases:—

Lady Brook, born 1927 by Skyrocket (Sunstar) out of Draft (The Wag-Orme).

Moyle Lassie, born 1927 by Jutoi (Santoi) out of Mademoiselle Mai (Oppressor-Gallinule).

Enevellum, born 1930 by Apron (Son-in-Law) out of Fine Gold (Rhodesian).

Highland Star, born 1930 by Asterus (Teddy) out of May Stuart (Grey Fos 2-Le Samaritain).

XUM

Nemesia, born 1932 by Coronach (Hurry On) out of Nepeta (Blaudford).

Fools Paradise, born 1930 by Grand Parade out of Brissolée (Fléchois).

Eily McMahon, born 1935 by Irish Battle (Lemberg) out of Flower of Finnea (Stratford).

Eily McMahon is only two years old and after training will be seen on the Czech racecourses.

Lady Brook had a male foal by Grand Glacier.

Moyle Lassie a foal by Embargo.

Enevellum a foal by Lordland (Tamar).

About 90 remount mares have been purchased in Ireland and these will be sent to the Military stud farms for "refreshment of the blood."

I saw a beautiful lot of yearlings which are kept at a separate farm.

I visited a very extensive forest and farm belonging to the State where large numbers of pheasants are reared. It was there that I learned that Tularæmia had appeared amongst the growing animals, hares and rabbits.

Quoting from Fairbrother's Medical Bacteriology:—

"Tularæmia is primarily a disease of rodents and is encountered in the ground squirrels of California; it occurs as a fatal septicæmia and resembles plague in many respects. Man is very susceptible. Laboratory infections have not been uncommon. The clinical picture of the disease in man is variable. In some cases a local skin lesion is present, together with painful enlargement of the regional lymph glands; pyrexia; and secondary constitutional disturbances are also present. In other instances, no local lesion but signs of a vague generalised infection with intermittent pyrexia. This is known as the typhoid type. The organism may sometimes be isolated by injecting guinea pigs in series with infected material, such as blood or enlarged lymph glands."

The great shoe industry founded by Bata provides many things, both interesting and instructive, not only to the social reformer, but also to those interested in agriculture.

We were told, for instance, that for the daily output of the Bata shoe workshops, 14,500 animals must sacrifice their lives, and to supply the factory restaurants, 3 bulls, 50 calves, 200 pigs and 15 oxen are slaughtered each week.

An interesting day was spent at Luhaovice, one of the modern spas. The mineral springs were known as far back as the ninth century, but it was not until the 16th century that the district became a resort. Diseases for which

people came, mentioned in a Latin work, are stomach complaints, constipation, gallstones, chronic fevers, headaches, decrepitude, stoppage of the urine due to ulcers of the bladder, hysteria, sterility, and repeated miscarriages. The water was drunk pure or mixed with ewes' whey, raspberry juice, syrups or honey.

Bathing began in 1790.

To-day the spa is one of the chief modern watering places of the world, and is used for respiratory diseases, including asthma; diseases of the digestive organs, women's diseases, liver; urine and gall bladder diseases; various other diseases such as anæmia, gout, calcification of the arteries; too low or too high blood pressure, etc.

The spa lies in a valley on both sides of the river Olsava. The valley is protected by high hills and is open only to the South. There are beautiful, well-kept parks surrounded by magnificent forests on the surrounding hills.

There is an Institute for the examination of patients, and this is equipped with Röntgen apparatus and a Metabolor apparatus, the latter to measure the oxidation of substances in the human body, i.e., to ascertain whether, with an affection of the thyroid gland, this process is accelerated or normal. It also has a chemical laboratory and complete equipment for electro-therapy. The Institute for inhalation has three methods:

1. Gargling the throat; spraying the nose.
2. Inhalation.
3. Resting in pneumatic cubicles.

The pneumatic cubicles are used for the cure of asthma; by the heightened pressure in the cubicles, the bronchial passages are forced to expand, and this leads to better breathing.

In the bathing establishment there is a special department for hip baths; special shower baths for ladies; foam baths; and special entero-cleaners. There are also mud and sulphurated baths.

I found time to visit the famous Macocha caves, with their underground river, great abyss and wonderful stalactites and stalagmites; the fine city of Prague; the Spas of Luhacovice and Trencianske Teplice; and the High Tatras. I also had the good fortune to be in the country at the time of the festival at Uher Hradiste.

At this time of tension, one's hopes are that this progressive country will be spared the ravages and horrors of invasion, and will be allowed to continue in peace the work she has set herself to do.

XUM

ANIMAL INTELLIGENCE

Wilhelm of Ostens and Karl Kralls founded the Society for Animal Psychology in 1912 and always asserted that the higher animals were amenable to man's reason and intelligence and that it was possible to transmit thought between man and animal and animal and man.

Old philosophy asserted that animals had neither mind nor soul and were incapable of reason, but this assertion is gradually fading out.

On April 7, 1936, Professor H. Ph. Weitz interviewed Bessy, the speaking dog of Arruncrsee and found that it could count and understood words spoken to it.

The wild and untamed animal does not understand man as its life is a free one. It sees only an enemy in man. The partly tamed animal learns more and more to understand man, and its adaptability is developed and made use of by man.

Kralls' horse had the ability to count and add up and the dogs Bessy and Birke could reckon up quickly after the giving out of the table of figures. Hans, the horse of Wilhelm of Ostens, showed that he could think, add up and tell numbers and so could coalesce with man's thought.

Karl Kralls, Paula Mockel, Henry Kindermann, and Freytag Loünghoven, of Weimar, showed several dogs, and notably the dachshund "Kurwenal," which possessed a high degree of intelligence and understanding.

If an animal can count is it endowed with reason? Is reason the sole attribute of man and of his faculty of mind? Reason and intelligence as psychic faculties increase and develop the cerebrum and in man they reach their highest point.

THE DIFFERENTIAL DIAGNOSIS OF PERITONEAL TYMPANY IN CATTLE

By EDWARD B. D. HALL, M.R.C.V.S.
Wiveliscombe

For some time I have considered peritoneal tympany to be the "hall-mark" of traumatic gastritis, but have recently met with several cases of different origin.

In the typical case of traumatic gastritis, there is usually some œdema of the dewlap and a "critical" temperature of 104 deg. F., and in this condition

the early adoption of Imrie's treatment will give gratifying results. But to wait for the cardiac symptoms of pericarditis is to court disaster.

A more frequent cause of peritoneal tympany has lately been found to be due to parasitic gastritis in aged cattle.

In fully grown cattle the symptoms of parasitic gastritis differ considerably from those in yearlings. There is no tendency to scour. The appetite is not good and apart from a grunt and general symptoms of indigestion, the chief feature of the condition is that cows, particularly, do not fill themselves normally. After some time slight peritoneal tympany appears, and though relief can be obtained by ordinary treatment for indigestion, the symptoms recur on returning to normal feeding, and there will also be some œdema of the dewlap. The distinguishing feature is the temperature, which may be elevated, but does not stand at the critical point of 104 deg. F., and recourse to vermifuges will soon relieve the condition..

The more acute cases of peritonitis such as result from rupture of the uterus or, in some cases, of nephritis, with great enlargement of one kidney, may also set up tympany. In nephritis there is also dropsy of the dewlap and a very hard pulse, but these forms give little trouble in diagnosis as pressure over the kidneys will soon decide the seat of the trouble, and in acute peritonitis there is far more distension.

Clinical Articles

FRACTURE OF CONDYLES OF THE HUMERUS IN THE DOG

By A. C. SHUTTLEWORTH, M.V.Sc., F.R.C.V.S.,
Department of Veterinary Surgical Anatomy and Operative Surgery, Liverpool University

THE lower extremity of the humerus is apparently quite a sturdy mass of bone and shows no inherent weakness to account for the occasional typical fracture of the condyles. It is a strong hinge joint that is formed with the radius and ulna, and while functioning as a hinge joint the humerus is unlikely to be injured. Like all these joints, it is not intended that weight should be borne by the bones, but by the associated muscles. When weight is received

XUM

by the fore-limb in the dog, the foot is spread by the pressure and the shock transferred to the metacarpus and carpus. The latter may become over-extended if the weight is great, otherwise the shock is absorbed by the bones of the carpus and their ligaments. From the carpus the weight passes to the bones of the fore-arm. The elbow flexes and the extensor muscles of the elbow take the strain. A similar movement takes place in the shoulder, and the weight of the trunk is taken by the muscles passing from the body to the scapula and humerus.

When the lower articular surface of the humerus is examined, it will be seen that although the outer condyle carries the larger articular area, it is much weaker in structure than the inner and is thus unfairly taxed if direct violence is transmitted along the bones. It is not supported behind by such a strong mass of bone as is the internal condyle, and while it lies lateral to the main shaft of the humerus and so unsupported by it, it is also weakened by the presence of the foramen or the thin plate of bone between the coronoid and olecranon fossæ (Fig. 1).

The fracture of the external condyle is the more common of the condylar fractures. It occurs usually in adult dogs of weighty breeds. It sometimes happens that a similar injury happens in both fore-legs at one time, while occasionally an interval of months may elapse between the condylar fracture of one leg and a like accident of the opposite leg. This would suggest that there is some weakness of the bone in such cases.

The usual history is that the dog fell after leaping from a height and was discovered to be acutely lame. Probably the fracture occurs on alighting, whereupon the dog falls.

When landing from a jump the joints of the fore-limb are extended. The weight is received upon the foot, and as it increases the carpus becomes over-extended so that the back of the metacarpal region reaches the ground. If the height or weight is excessive the carpal pad strikes the ground and the shock is transferred direct to the column of the forearm with no shock-absorbing structures intervening. If the elbow is firmly extended so that flexion does not readily occur, the violence is transmitted through the radius and ulna to the humerus and it is at this instant that fracture of the external condyle takes place.

The radius is the chief weight-bearing bone of the forearm, and its upper articular surface occupies the whole of the articulating area of the external condyle. The ulna articulates with part of the internal condyle and the olecranon fossa. Neither of these articulations with the ulna can carry much weight (Fig. 2). In this way the extension of elbow concentrates the violence solely upon the external condyle, which, as mentioned previously, is by far the weaker of the two.

FIG. 1.

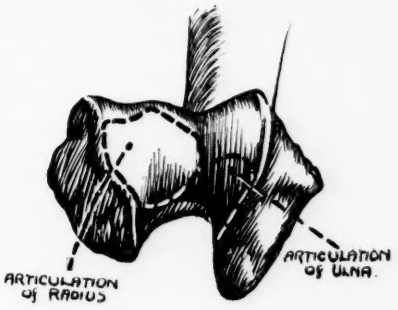

FIG. 2.

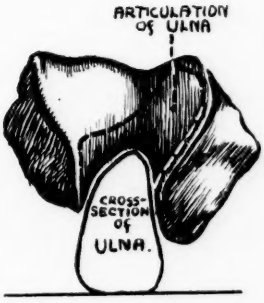

FIG. 4.

FIG. 3.

FIG. 5.

ARTICLE BY MR. A. C. SHUTTLEWORTH. PAGE 275.

Another factor may enter into the causation of this injury. In full extension of the elbow the beak of the ulna enters the olecranon fossa, and as the weight is received it may be driven against the roof of the fossa, acting as a wedge to split the condyles.

The displacement of the external condyle is always upwards, the extent of the displacement depending only upon the extent of the violence. The radius and ulna are carried up with the condyle (Fig. 3), undisturbed in their relation to each other. There is, of course, gross rupture of the internal lateral ligament, but the external ligament is displaced unharmed. No movement at all is possible in the joint, and it takes up a position of semi-flexion as the alignment of the olecranon and its fossa is destroyed.

Diagnosis of the condition is made by the distortion of the anatomical landmarks and by crepitation on moving the forearm.

Fracture of the internal condyle is not due to the same forces that bring about fracture of the external, nor is it so common. It may occur in conjunction with the latter fracture, but in the opposite leg. It is quite possible under such circumstances that, one leg having fractured under the strain of the jump, the animal is brought down heavily on to the elbow of the opposite leg.

Violence through the posterior edge of the ulna with the humerus at right angles to it will bring the force to bear solely upon the internal condyle with the impact driving upwards and inwards (Fig. 4). This, combined with the wedge-like action of the ridge on the sigmoid cavity into the groove on the articular surface of the humerus, will tend to split off the internal condyle.

There is not such great displacement in this fracture as in the previous one. The wedge of the ulna, having split the condyle, pushes it aside and pushes still further into the crack. This action of the ulna, however, must cease when the intact external condyle reaches the ground. Sometimes at this point the force is so great that the external condyle fractures in turn, giving the T-fracture of the condyles.

With fracture of the internal condyle there is not such great anatomical distortion, but the width of the elbow is increased at the condyles, due to the internal condyle being driven outwards as well as upwards (Fig. 5). There is also crepitation if the forearm be fixed or rotated. The leg below the elbow is adducted owing to the oblique plane of the damaged humeral articular surface. The beak of the ulna is out of alignment with the olecranon fossa, so that there is persistent flexion of the elbow.

There is danger in this fracture of injury to the vessels and nerves passing across the inner face of the elbow.

Treatment to these fractures is always difficult and nearly always unsuccessful if a functioning joint and a weight-bearing limb is expected. An extension splint may be applied, after powerful traction upon the forearm

XUM

to drag down the condyle, but its retention against the pull of the extensors and flexors of the elbow is almost impossible. There is bound to be a varying amount of occlusion of the olecranon fossa preventing the entrance of the ulna, and restricting extension of the joint.

The most feasible method of treatment would appear to be screwing of the condyle by passing it laterally through the outer and into the inner condyle.

Prognosis in these cases is always bad, and a lifetime of lameness can be predicted. Many dogs do, nevertheless, manage to get about very well, although their activity is much restricted.

CLINICAL NOTES ON POULTRY DISEASES

By W. P. BLOUNT, F.R.C.V.S.
Lewes

THE following notes may be of value to those interested in poultry practice.

Lymphomatosis in Turkeys

Up to the present, "fowl paralysis" has been considered specific for the domestic hen, or at least that variety involving the nervous system and which is designated *neuro-lymphomatosis-gallinarum*. However, during the past winter, 1937-38, some curious post-mortem findings in turkeys were encountered during an experiment on blackhead, which greatly simulated visceral lymphomatosis in pullets. Flocks of turkeys affected with blackhead had been inoculated with a new arsenical spirochæticide (Mapharside, P.D. & Co.), and when odd birds died these were examined to confirm the *histomonas* infestations. After a while, instead of finding the typical blackhead ulcers, lymphomatous "tumours" of the liver were found. These appeared to be associated with the healing of blackhead lesions. Oval or irregular, pale, rather soft tumours were found scattered throughout the liver, whilst in addition a smaller number of typical blackhead ulcers were present. Five or six such cases occurred, and histological examination kindly carried out by Dr. C. L. Oakley, Wellcome Physiological Research Laboratories, Beckenham, Kent, revealed "fairly typical blackhead lesions, with numerous amœbæ, but showing a good deal of rather active lymphoid infiltration. . . . The other is what would in the fowl be termed extensive diffuse lymphomatic

infiltration, and I see no reason for calling it anything else in the turkey. . . . All I can say is that if I had seen the condition in a fowl, I should have called it lymphomatosis without question—by which you will see that I cannot tell the difference."

The turkey rearing season had by this time finished, so that the investigation was incomplete, but the results were considered sufficiently valuable to record. It will be interesting to see whether the same injections of organic arsenic produce similar lesions this coming season, and also what, if any, is the relationship to lymphomatosis in the domestic hen. It should be noted that no such lesions occurred in untreated but affected turkeys, nor in treated birds free of blackhead lesions *post-mortem*. Therefore, have injections of arsenic (organic) a stimulating effect on lymphoid cells in the presence of disease (blackhead) and, if so, is the effect specific for the turkey, or does it bear any relationship to the pathogenesis of "fowl paralysis"?

Nicotine Sulphate Poisoning

There appear to be few records of any harmful effects of the nicotine sulphate paint for the treatment of lousy birds. Recent observations suggest that where poultry are treated in this manner at intervals of three or four weeks, susceptible birds may suffer from an exfoliating dermatitis, together with, in advanced cases, ataxia. The skin lesions appear to be confined to the abdomen and inside of the thighs, notably if there is any deficiency of feathers in this region. (Note.—Examinations of numbers of birds in lay show that quite a proportion lose some of their abdominal feathers, leaving the skin bare.) The area involved may be quite extensive, several square inches, in fact, or limited to smaller patches the size of a florin. Apparently the germinal cells of the dermis become over-active and as a result a sheet of skin is thrown off. Examination of affected birds will reveal this pale yellow false skin, which in many cases can be torn away easily without hæmorrhage, and which will be found to include a number of feathers, if such are in the area involved. The underlying skin is frequently moist, and may reveal congested capillaries, with an associated oozing of clear serum, but there is no actual hæmorrhage. It is probable that such lesions are common, following the repeated usage for birds of the nicotine sulphate perch treatment, but unless the abdomen is specifically examined, or alternatively unless the more advanced symptom of lameness is observed, these cases will pass unnoticed. Typically affected birds are noticed to be lame, or moving with an awkward gait. In certain cases the loss of balance is even greater disturbed, and the bird's sternum drops forward, giving a characteristic appearance. It is uncertain whether this ataxia is associated with the local skin lesions, and therefore mechanical, or whether it is of more central origin, due to the paralysing effect of the nicotine on the autonomic ganglia.

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Following a number of cases in pullets showing the above symptoms, careful inquiries have pointed to the fact that they are due entirely to a susceptibility on the part of these birds to nicotine sulphate poisoning. This has not been proved conclusively, but it seems impossible to account for these symptoms in any other way. Observations from other veterinarians on the possible toxic effects of nicotine in poultry would be of great value.

Tuberculosis

Some authorities state that the tubercles involving the liver of hens suffering from tuberculosis do not protrude from the surface, whereas the opposite occurs in tuberculosis of the spleen. The rarity of macroscopic lesions of tuberculosis in the lungs of poultry is also common knowledge.

An examination of two pullets suffering from typical tuberculosis showed, in both cases, liver lesions which did protrude under the liver capsule, giving the organ a definitely nobbled appearance. Further, in one of these birds the lungs were each found to contain three or four large tubercles. Hole and Purchase are of the opinion that lung tubercles in poultry are not rare, but are missed owing to their small size. In the case under discussion the pulmonary nodules were round and almost as large as peas—one was adherent to the ribs. Such lung lesions are, of course, quite rare in poultry. Similar large and small tubercles were present in the bone marrow and kidneys, and there were also the usual distribution of fine lesions throughout the mesentery, although none were found actually involving the air sacs.

A second case examined some time ago showed typical miliary tuberculosis of the lungs. The numerous pinhead nodules were yellow, rounded and glistening, comparable in colour to a rather pale, dirty maize fat, compared with the true maize fat which frequently is found between the lungs and the ribs. The organisms in this case were beaded in appearance and rather long—their length being about six times that of their width. When compressed between two glass slides, the lung nodules showed pale, straw-yellow degenerate centres, cheesy in consistency.

Cæcal Coccidiosis

In a recent series of experiments a field was used for the rearing of chicks which had not housed poultry during the last twenty years, and there was no evidence to show that poultry had ever occupied these fields. Chicks were hatched in the immediate vicinity, and transferred to brooders and arks in the fields concerned. Early in July, examination of the droppings disclosed large numbers of coccidia, and odd birds showed definite clinical symptoms. In this instance it was clear the parasites could not have been present in the fields, nor would they be present in the chicks at birth—yet they were acquired during their fourteen weeks of life. One possible source

was a family of moor hens, who, living in a neighbouring glade, appeared daily to feed with the pullets. One of these was shot, and an examination of the cæcal contents did reveal oocysts, which according to simple observations regarding size and shape were similar to those found in the affected pullets. No proof was obtained that the moor hens did actually supply the parasites which were about to cause the outbreak of coccidiosis concerned.

Wryneck

Poultry not infrequently suffer from wryneck, sometimes termed limberneck. It is usually accepted that it may be caused by neuro-lymphomatosis (involving those nerves supplying the musculature of the neck), botulinus infection (true "limberneck"), or parasites—either of the ears or sometimes accompanying davainiasis. However, there are other cases where birds suffer from a *sudden* paralysis of the neck, with trailing of the head on the ground, in which none of the above causes seem to operate. In all respects the birds appear normal and if they are able to eat will live for days.

Quite recently the writer had an opportunity to examine two such cases and in both instances the neck paralysis was associated with a pathological involvement of the upper third of the œsophagus—just below the pharynx. In the first case a cyst about the size of a pea had formed in the œsophageal mucous membrane. In the second instance an isolated lymphomatous tumour (about half the size of a small walnut) had infiltrated the subcutaneous and peri-œsophageal region just below and to the right of the upper larynx—below the angle of the jaw. These areas are well supplied with nerves, and the suggestion is made that a mechanical pressure on these nerves may induce paralytic symptoms of the cervical region. The cyst was not observable externally, and indeed was only discovered *post-mortem*, but the tumour was quite easily located by insertion of the forefinger into the gullet, although its *external* features were practically negligible.

Duodenal Diverticulum

Records of intestinal diverticula in birds are few compared with those of man and other mammals, therefore the accompanying diagram may be of interest. The sac itself is larger than the gizzard and has apparently formed as the result of a malformation of the second portion of the duodenum—rather after the style of the improper closure of the roof of the mouth in a case of "cleft palate." The diverticulum was strengthened by the deposition of large amounts of fibrous tissue in its walls and contained (at *post-mortem* examination) filthy, undigested, decomposing foodstuffs, together with a quantity of grit. A large portion of the pancreas had apparently undergone atrophy through pressure necrosis, and presumably death was related to this factor, combined with absorption of toxins from the diverticulum itself.

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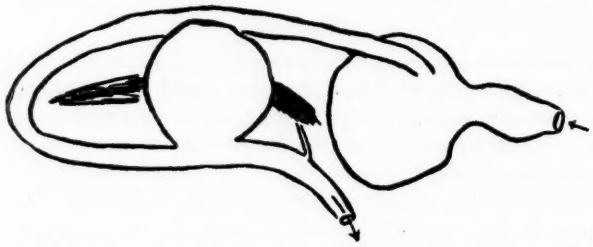
Colloidal Sulphur in the Treatment of Cæcal Worms

Colloidal sulphur preparations have been recommended for the treatment of cæcal worms, following their administration *per os* to infested poultry.

With a view to confirming this statement, two pullets from a flock heavily infested with heterakis cæcal worms were taken, and the proprietary preparation concerned was given in the drinking water daily—1 oz. being added to



approximately 8 ozs. of water. The majority of this water was drunk by the two birds daily, and after this treatment had been continued for a fortnight both birds were killed and examined *post-mortem.* The cæcal tubes in each case contained well over 100 cæcal worms, including large numbers of larvæ. It is clear, therefore, that colloidal sulphur does not appear to influence the elimination of heterakis worms by hens. The only noticeable feature during the treatment was the very watery droppings which the birds passed regularly. The contents of the cæcal tubes were exceptionally fluid. The heterakis were found distributed throughout the whole of the cæcal tubes, and not confined to the blind ends.

Abstracts

THE ACTIVE IMMUNISATION OF CATTLE AGAINST FOOT AND MOUTH DISEASE WITH THE RIEMS VACCINE OF WALDMANN AND KÖBE IN PRACTICE

By Government Veterinary Surgeon Dr. STRODTHOFF,
Berliner Turärztliche Wochenschrift, No. 24.
June 17, 1938.

Dr. Strodthoff gives an account of the inoculation results on 40,676 cattle. The following carried out the tests in practice: Drs. Kleinert, Müller, Meckleburg, Pauer, Preusz and Wahl-Riems, and assistants Drs. Brauer, Hein,

Hellurg, Lackner, Lemm, Meyer, Pahns, von Schalscha, Steinberg and Schulz.

Dr. Holz was an active assistant to the Government and did exceptionally useful work in preparing a full report of the operations for the German Press.

The conclusions arrived at after exhaustive tests were as follows:—

1. The vaccine proved to be non-injurious to 40,676 cattle. No inoculation disease was caused by the vaccine and no local and general reactions of importance occurred under practical conditions.

2. An effective active immunity against infection in practice developed within 12 to 14 days. After this time no outbreak of the disease occurred in any holding. In five to six days a pronounced protective effect was noticeable. In holdings in which five to six days after inoculation the disease broke out only a part of the animals were ill.

3. Active immunity has existed for two to three months in districts severely affected.

The doses of the vaccine are:—

In cattle:—

(a) Animals up to six months (2 cwt.)	20 c.cm.
(b) Animals six months to two years (2 to 6 cwt.) ...	40 c.cm.
(c) Animals over two years (over 6 cwt.)	60 c.cm.

In sheep:—

(a) New-born lambs	5 c.cm.
(b) Older lambs	10 c.cm.
(c) Yearlings and older sheep	20 c.cm.

In swine:—

Suckers of four weeks	5 c.cm.
Older suckers and stores up to 44 lbs.	20 c.cm.

CATTLE IN KENYA COLONY

In comparatively recent times, through the activities of the Department of Veterinary Services, mortality from disease has been considerably reduced, but the native attitude in regard to quantity has not changed accordingly. In the past the conservatism of the native mind was apt to regard new ideas with suspicion, but by propaganda, patience and perseverance, his outlook has been altered to the extent that in many areas it is now difficult to satisfy native

demands for veterinary services. The diseases of chief importance in the native reserves are rinderpest, contagious bovine pleuro-pneumonia, East Coast fever, and trypanosomiasis.

The Northern Frontier and Turkana districts are almost entirely pastoral, and also practically all of the Masai and the Kitui districts. The Kavirondo reserves are largely agricultural, but accommodate appreciable numbers of cattle. A recent census of the North Kavirondo reserve shows that there are some 600,000 head of cattle in that particular area. The Masai reserve and the Northern Frontier district are the most important sheep-breeding areas of the colony.

There are five veterinary education centres established in the native reserves, each one in charge of a European officer. These centres maintain herds of cattle and carry out selective breeding and nutritional investigations, with a view to the improvement of cattle in the reserves. Tribesmen are accepted at centres for a two-year course in diseases control and animal husbandry; they are also given instruction in the preparation of hides and skins, butter and ghee (clarified butter) and allied matters. On completion of their course, some of the pupils are employed by the Department of Veterinary Services, some by the local native councils, a few obtain employment on European farms, and others return to their reserves, where they have plenty of scope to apply the knowledge thus acquired.

—*The Manchester Guardian Commercial.*

NOTICES OF JUDGMENT UNDER THE INSECTICIDE ACT IN U.S.A.

(*Given pursuant to Section 4 of the Insecticide Act*)

1551—1575

1551. Adulteration and misbranding of derris. U. S. v. R. J. Prentiss and Co., Inc. Plea of guilty. Fine, $100. (I. and F. No. 1941. Sample No. 53975—B.)

This product was represented to be derris, which contained a minimum of 5 per cent. of rotenone, but which in fact consisted of cube root containing less than 5 per cent. of rotenone.

On March 24, 1937, the United States Attorney for the Southern District of New York, acting upon a report by the Secretary of Agriculture, filed in the district court an information against R. J. Prentiss and Co., Inc., New York, N.Y., alleging shipment by said company on or about July 23, 1935,

from the State of New York into the State of Delaware of a quantity of derris, which was an adulterated and misbranded insecticide other than paris green and lead arsenate within the meaning of the Insecticide Act of 1910.

The article was alleged to be adulterated in that the statement "Derris" borne on the barrels containing it represented that the said barrels contained derris; whereas they did not contain derris but another substance, cube root, had been substituted for derris. Adulteration was alleged for the further reason that the strength and purity of the article fell below the professed standard and quality under which it was sold, since it was represented to contain a minimum of 5 per cent. of rotenone; whereas it contained rotenone in a proportion much less than 5 per cent.

It was alleged to be misbranded in that the statements "Derris Min. 5 per cent. Rotenone," borne on the barrels containing it, were false and misleading, and by reason of the said statements the article was labelled and branded so as to deceive and mislead purchasers since the barrels did not contain derris but did contain another substance, namely, cube root; and the article did not contain 5 per cent. of rotenone but did contain much less than 5 per cent. of rotenone.

On May 10, 1937, a plea of guilty was entered on behalf of the defendant and the court imposed a fine of $100.

HARRY L. BROWN, *Acting Secretary of Agriculture.*

1561. Misbranding of Magic Stock Spray. U.S. v. Allied Drug Products Co. Plea of guilty. Fine, $75. (I. and F. No. 1963. Sample No. 62996—B.)

The labelling of this product contained false and misleading representations regarding its effectiveness in the control of flies and other pests that annoy livestock.

On March 3, 1937, the United States attorney for the Eastern District of Tennessee, acting upon a report by the Secretary of Agriculture, filed in the district court an information against the Allied Drug Products Co., a corporation trading at Chattanooga, Tenn., alleging shipment by said company on or about April 21, 1936, from the State of Tennessee into the State of West Virginia of a quantity of Magic Stock Spray, which was a misbranded insecticide within the meaning of the Insecticide Act of 1910.

The article was alleged to be misbranded in that the following statements, borne on the bottle label, "Magic Stock Spray * * * Kills Stable Flies, Horse Flies, Horn Flies * * * Gnats, Wolves, * * * Flies are not only a torment but carry and spread disease. * * * Apply Magic (Stainless Brand) Stock Spray, full strength, over the animal. Use a good Spray Gun and give careful attention to spraying on head, legs, sides and under body. * * * It adds very much to the comfort of Live Stock, to spray

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barns and stalls daily. Repels * * * Horse Flies * * * Wolves * * * Flies are not only a torment but carry and spread disease," together with the picture of a cow being tormented by flies and a picture of a second cow being not so tormented, also borne on the bottle label, were false and misleading, and were borne on the said label so as to deceive and mislead purchasers, in that they represented that the article when used as directed, would be effective in killing stable flies, horse flies, horn flies, gnats, and the flies known as " wolves "; that it would give comfort to livestock when sprayed on barns and stalls daily, would be effective as a repellent against horse flies and " wolves " that attack or annoy livestock, would be effective in preventing annoyance and attack of cattle by all species of flies, as implied by the pictures on the label; whereas when used as directed, it would not be effective for the said purposes.

On April 26, 1937, a plea of guilty was entered on behalf of the defendant and the court imposed a fine of $75.

HARRY L. BROWN, *Acting Secretary of Agriculture.*

ABSTRACT FROM THE ANNUAL REPORT OF THE BRITISH SOMALILAND VETERINARY AND AGRICULTURAL DEPARTMENT FOR 1937

Staff

The staff under the Veterinary and Agricultural Officer, Mr. Edward F. Peck, M.R.C.V.S., B.V.Sc. (Tor.), D.T.V.M., remains unchanged.

The total area of the Protectorate is 68,000 square miles, and of this about 800 square miles may be said to be arable. The stock carried on the grazing areas is estimated to be: 800 horses, 200 mules, 500 asses, 40,000 cattle, 3,000,000 sheep, 2,000,000 goats, and 1,500,000 camels.

The mere increasing of the monetary wealth of the people appears to be of very secondary importance until such time as they have had a modicum of education.

It has been easy to save the lives and improve the condition of many thousands of head of stock (particularly sheep and camels), but a problem arises when the Somali tries to use the money obtained from the sale of his stock. Markets in Somaliland are largely unexploited; and generally speaking, the Somali can only convert his surplus monetary wealth into more stock, so adding to the menace of pasture depletion and overstocking.

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Veterinary Work of the Somaliland Camel Corps

The year has been marked by a considerable reduction in the numbers of animals entering the sick lines and no outbreak of infectious disease occurred.

Arthritis and Contagious Necrosis of the Skin in Camels

Formerly, 7-8 per cent. of the camel strength suffered from contagious necrosis and one or two per cent. had arthritis. Since the salt ration was increased to 5 oz. per day no case of necrosis has occurred, except in controls, and arthritis is a rarity.

Sprains in Ponies

The incidence of sprains formerly was high, six or eight ponies out of 150 always being lame from this cause. The reduction in numbers of lame ponies is due to better care of the feet and to the wearing of elastocrepe bandages when the small overweighted ponies are played at polo. A simple sprain at polo is now very uncommon.

Trypanosomiasis in Camels (T. evansi)

This disease has been readily controlled during the past few years by regular testing with Bennett's test and the use of Naganol.

Anthrax and Horse Sickness

Both of these diseases have in former times taken considerable toll of Corps animals, but they are now prevented by the annual inoculation of all susceptible animals. Outbreaks of horse sickness have occurred in localities where Corps ponies were stationed but no Corps pony has become infected. The horse-sickness vaccine is obtained from Kenya.

Intravenous 50 Per Cent. Chloral Hydrate (Citrated 1 per cent.)

This has been the only method of firm restraint and anæsthesia. Its use has been found very satisfactory in both ponies and camels, especially when its administration is preceded by a dose of atropine.

Helminthiases of Ponies

As all the common nematodes of horses occur in Somaliland, the principle of bi-annual helminth medication has been adopted. A point of possible interest is that instead of using linseed oil with oil of chenopodium and oil of turpentine, mineral oil has been substituted; and, as was formerly practised, a 12-hour fast prior to medication is adopted instead of one of 36 hours.

Linseed oil presumably tends by absorption to produce indigestion; it also causes a much greater depression than mineral oil, and is more violent in its

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action. A corresponding amount of mineral oil is milder in action. Clinically this technique is efficacious.

Habronemiasis (*H. musca*) has often been observed and treated, but the first case of *H. megastoma* infestation was seen towards the end of the year. This worm, which forms "tumours" in the wall of the stomach, cannot be treated, and consequently importance must be attached to eliminating flies from stables. Only by contact with infected house flies (*Musca domestica*) can the horse be given the disease.

Colic in Ponies

The incidence of evening colic has always been high, but in the third quarter of 1937 it became unduly so. However, only three cases of colic have occurred in the fourth quarter of 1937, and the only noticeable change in management has been that ponies have had 3 lbs. of hay with their morning feed, or have been sent out to graze shortly after the grain ration, which consists of grain 3 lbs., and bran ½ lb. Formerly they had no hay with their grain and bran.

Trichostrongylosis of Camels

Trichostrongyle species are supposed to be relatively harmless to camels. However, a case of pure trichostrongyle infection with an Hb percentage of 26 was observed. The camel had been treated for hæmonchiasis with copper sulphate, and subsequently with a drench of chenopodium and turpentine in mineral oil, no improvement resulted, and on post mortem examination a heavy and pure (except for a few trichuris) infestation of trichostrongyles was seen. The camel was free from trypanosomiasis.

Prior to the death of this camel a pint drench of 1 per cent. copper sulphate was given; first, two ounces and, after a pause of 15 seconds, the balance. Not more than one-fifth appeared to reach the abomasum.

Numnahs

A large amount of the lameness in camels caused during the Italo-Ethiopian dispute was due to pressure on the top of the shoulder blades by the hard pads and strong felt numnahs of the Bikaner saddle.

If extensive daily trekking were to be indulged in again it seems likely that the large Bikaner saddle (which does not fit the small Somali camel, and which rides on his shoulder blades) would again cause lameness.

Salt

The salt ration for camels was increased on January 1, 1937, to 5 oz. per day, with the result that the grain ration has been lowered 25 per cent. and, as previously mentioned, contagious necrosis has been eliminated and arthritis

has become a rarity. The Corps camels are in excellent condition, better in fact than can be remembered, and as no change has been made in their management, other than the increase of salt, the improvement may fairly be said to be due to this measure.

The salt used was unpurified sea salt from Zeilah; it is being analysed.

Salt and Salt Grazing

From preliminary work it is observed that camels which are normally receiving 5 oz. of crude salt per day will consume willingly over 4 oz. if it is offered to them neat at a time when they are grazing salt bush; 4.3 oz. is approximately the correct physiological salt requirement of the Somali camel. Further, they feed freely on *Salsola* and other salt bushes when receiving a full salt ration. Even if the camels are in very fair condition before going to salt bush grazing, they greatly benefit by it.

Rinderpest

An extensive and severe outbreak of rinderpest occurred in Hargeisa and Borama and stock movements to the East were prohibited for approximately six months. Until such time as effective control of grazing, and proper marketing facilities exist, outbreaks of rinderpest serve as means of maintaining the pasturage stock balance.

Formerly vaccination by means of serum plus virulent blood was given to immunise against rinderpest, but in view of lack of adequate European supervision, it was felt that, should an error occur in technique, much harm would be done to the general reputation of the Department. Only 400 head of cattle were inoculated under European control by this means in 1937.

Other objections also exist to the employment of this double inoculation in Somaliland. Serum is apt to become unsaleable old stock and a charge on the Government, and there is the danger of spreading disease if the inoculation is not properly controlled.

In view of these circumstances, arrangements are being made, by the kindness of the Sudan authorities, for a supply of glycerinised vaccine. This vaccine will be more fool-proof than the former inoculation, and less expensive. It is hoped (with Italian co-operation) to isolate and vaccinate outbreaks as they arise. The objection to glycerinised vaccine from the native viewpoint is that it affords a relatively short immunity.

Pleuro-Pneumonia in Cattle

There has been a slight increase in the number of outbreaks this year. Personal supervision of quarantines is not possible, and so this work has largely to be left to the Native Stock Inspectors. This unavoidable method affords a possible source of dangerous reinfection.

XUM

Co-operation on the border with the Italian authorities will certainly lower the incidence of pleuro-pneumonia.

A few doses of N.A.B. (.3 gramme) have been given by the Head Stock Inspector. Very satisfactory reports have been made of the results in early cases. No European observation has been possible, but in view of the fact that favourable reports have been received on newly infected cases, and not on chronic ones, the inference is that reports are likely to be correct.

Blackquarter

The incidence of blackquarter has increased, and an attempt to introduce aggressin (prophylactic) is to be made next year.

Anthrax

The usual incidence of anthrax, no doubt, occurred, but it is uncommon to see a case. No extensive outbreak was reported, but experience shows that the annual inoculation of Government and private stock is warranted.

Rabies

One case occurred in a Somaliland bitch after arrival in England. Rabies is undoubtedly enzootic in Somaliland amongst certain wild animals. The jackal-chasing European-owned dog is the link between station dogs and the disease in wild animals. Evidence exists to support the view that rabies exists, not only in Borama, but also on the Guban between Bulhar-Zeilah.

Three-day or Ephemeral Fever

One case of this disease was seen in Hargeisa.

Caseous Lymphadenitis of Sheep

One suspected case was seen near Bulhar, but it has not yet been bacteriologically confirmed.

Horse Sickness

Two cases, one of unquestionable horse sickness, and the other almost certainly so, were recorded from Hargeisa in unvaccinated animals. No case occurred in a vaccinated animal.

Canine Tuberculosis

From amongst approximately 25 European-owned dogs, it is interesting to record that two have died in the past two years from generalised tuberculosis. Tuberculosis, while common amongst natives, has not been recorded in animals, other than dogs, in Somaliland.

XUM

Dipping

Only the Hargeisa dip is in operation, but owing to the good rains in Ethiopia, most of the stock has been over the border during the greater part of the year, and the dip has been but little used.

The following stock have been dipped in 1937:

Sheep	14,439	Camels (washed) ...	42
Goats	3,148	Cattle (washed) ...	14

The cost of the dipping fluid used was approximately one-tenth of a penny per sheep.

Cooper's arsenical cattle dip (1.150) is used, because all Somaliland animals are haired. Dipping is particularly appreciated for the treatment of ticks and lice (*Linognathus Africanus*), and it is also used for sarcoptic mange in sheep, goats and camels, and for ringworm in sheep. Results have been uniformly good, and the use of the dip is increasing rapidly.

Worm Pills

One of the most devastating diseases of the seaboard stock is hæmonchiasis (worms). A treatment which can be readily given and carried out by the owners is essential; and ease of dispensing is a primary consideration. Cooper's arsenical pills have been offered as the standard treatment. The drug is steadily increasing in sales and reputation.

Naganol

6,028 3-gram doses of naganol were sold during the year at Rs. 2 per dose. The increase in naganol sales this year is due to a very heavy influx of infected camels from the Ogaden to Hargeisa. Actually the incidence of local trypanosomiasis has markedly decreased.

Naganol and other medicines are being made available over a more extensive area than previously. The Erigavo and Berbera districts have each had the services of a Stock Inspector for part of the year, and a satisfactory start has been made in meeting the needs of these areas.

Coal-tar Disinfectant (Crown Agents' Admiralty Fluid)

The sale of this common medication in the crude undiluted state has met with a wide response, and its use has been extended so that it is now a most valuable drug to the nomad. While none of the treatments listed below is new, except perhaps the treatment for sarcoptic mange in the camel, it will be useful to record observed clinical experience with this drug.

Camel Mange (Sarcoptic)

Scabs and crusts are removed by washing and rubbing with bundled sticks, and 11 per cent. disinfectant is applied; this treatment is repeated in eight

XUM

days. Not more than two applications are required, and no toxic symptoms have been seen when extensive areas of skins have been dressed. The camels are a short-haired type, and this no doubt aids the efficacy of the treatment.

Sheep and Goat Sarcoptic Mange (Haired Sheep)

As for camels, but only a 5 per cent. solution is used.

Ringworm in Sheep and Camels

Both these diseases are cured by a 5 per cent. solution; one thorough application is usually sufficient to cure a sheep.

Sir Aldo Castellani has kindly examined ringworm lesions from Somali camels, and he tentatively suggests that the casual agent should be named *Trichophyton Dankaliense.*

Foot-rot in Sheep, Wounds (Animal and Human), Tympanites, Lip and Leg Ulceration, Ticks and Lice

These conditions require no comment, but are readily cured by Admiralty fluid.

Tick Paralysis in Camels

Observed cases, though few, have left little room for doubt as to the nature of this disease, and the early application of 1 per cent. solution of Admiralty fluid to the whole body has yielded promising results by removing the toxogenic ticks.

The sale of this disinfectant is largely limited by the shortage of pint bottles. It will therefore be offered for sale in tins in 1938. Tins, unfortunately, greatly increase the cost of the drug to the native, but the empty tin is of value to him.

Pleuro-Pneumonia Contagiosa of Goats

This disease continues unabated and keeps the goat population satisfactorily in check. In spite of the damage which goats do, it should be recorded in their favour that at the end of the winter they are able to supply milk when other sources are drying up.

Burdizzo Castrators

Several thousand sheep and other animals have been castrated by this quick and relatively painless method. It is expected that it will soon be possible to sell some of these instruments to Somalis. The method has the advantages of not reducing the condition of animals after castration, being speedy and causing no mortality.

XUM

Reviews

Fish Pools and Home Aquariums, by F. AUSTIN WATSON, F.Z.S., pp. 121, fully illustrated. Published by W. H. and L. Collingridge, Ltd., London, price 2s. 6d.

For those who wish to have the pleasure of making fish pools and home aquariums —a very fascinating hobby—this little book forms a very practical and useful guide which can be recommended with every confidence to the amateur, and the expert, too, will find many useful hints. It is *par excellence*, a book which would be an exceptionally acceptable present to the youngster who has reached the age at which his mind has become an inquiring one and the study of the habits of the inhabitants of a home aquarium gives endless material for deep thinking. "Fish Pools and Home Aquariums" has in every chapter paragraphs full of interest and instructive instruction. It even includes a diagram and full description of a sanatorium in use in a tropical aquarium, showing how one can provide a ready means for isolating ailing fish.

Patologia Chirurgica Vetrinaria, by PROFESSOR ATTILIO MENSA, pp. 795, with 359 illustrations. Published by Union Tipografio Editrice Torinese, Turino.

In this volume, which is most excellently produced, Professor Attilio Mensa, the Director of the Institute of Veterinary Surgery in the University of Bologna, has given to his colleagues, not only in Italy but in every part of the world where the Italian language is read, an Animal Surgery of the domesticated animals which cannot help but be adopted as a textbook in every Veterinary School. The work is divided into General and Systematic Surgery, respectively, each portion delving with great thoroughness into the subject of the heading of each respective chapter, and it is practically impossible to find that any work which is likely to come into the domain of the Practitioner has been omitted. The descriptions of each operation are given, not only in full detail, but in such a clear and descriptive manner that it is easily understandable. It is a book which can be recommended, not only as a textbook, but as a work of reference, for every Veterinary School and for every practitioner who desires to keep himself up to date.

Traite de Pathologie Medicale des Animaux Domestiques, by PROF. F. LIEGOIS. Published by Jules Duculot, Gumbloax, Belgium, pp. 725, price 100 francs.

In this very complete volume Prof. Liegois has given to his profession a most complete and up-to-date summary of Pathological Medicine of the domesticated animals. It is written for the practitioner—giving in both general and specific terms the etiology diagnosis and treatment of every disease from which the domesticated animal is liable to suffer; and Prof. Liegois has not failed to give credit where credit is due to the work of his colleagues—equally to those of other countries as well as his own.

The Internal Parasites and Parasitic Diseases of Sheep, by CLUNIES ROSS, D.V.Sc., and H. McL. GORDON, B.V.Sc. Published by Angerson Robertson, Sydney, Australia, price 25s.

In a book of some 213 pages, beautifully illustrated, Messrs. Clunies Ross and Gordon have given to their profession an authoritative monograph on the diseases of the sheep in Australia, which includes most valuable information as to the etiology

XUM

diagnosis, symptoms and treatment of the parasitic diseases of the sheep; an animal upon whose good health depends so much of the prosperity of that vast Continent. A description is given, together with photographic illustrations, of the method of treatment of nodal worm by a most ingenious automatic drenching gun—a treatment which is stated, if correctly administered, to be of extraordinary high efficiency—reaching 100 per cent. in a large proportion of the cases; for the success of which it is absolutely essential, therefore, that an adequate volume of fluid should be given slowly and in a proper manner. This result is obtained if the directions of the author are carefully followed. The book is one of the, if not *the*, most complete of its kind which has been written on the subject of the Internal Parasites and Parasitic Diseases of Sheep, and the names of the authors are sufficient guarantee of the soundness of the advice.

Krankheiten der Edelpelztiere und ihre Bekämpfung (Diseases of Pure-Bred Fur-Bearing Animals and their Hindrance), by Dr. Gerhard Schoop, Director of the Veterinary Research Station at Kassel, 1938. M. & H. Schafer, Hannover, price 8 RM., pp. 187, with 93 illustrations.

This is a useful little book divided into seven sections which deal respectively with the breeding, handling and clinical examination of fur-bearing animals, breeding defects and mishaps, non-infectious diseases, infectious diseases, parasitic diseases, hygiene, and the supply and preservation of the meat for the animals.

The section on hygiene is very important and instructive. As disinfection means, Dr. Schoop recommends soda lye for virus diseases, cresol soap preparations for tuberculosis and formalin for spore-forming bacilli.

The remarks on the situation of the courts and abodes for the animals are very valuable.

The book deals with the silver fox, the light and dark Polar fox, the mink, the marsh beaver and the racoon. The illustrations are excellent and the whole work is well printed and produced and can be recommended to all readers of German interested in the care and production of fur-bearing animals.

There is a sparsity of literature in English on this subject and there is room for a British book on fur-bearing animals. An English translation of this little work would be acceptable and valuable in our library.

CONGRATULATIONS TO THE "VETERINARY RECORD"

We congratulate our contemporary, the "Veterinary Record," on having attained its Jubilee Year. When in 1888 our much revered colleague, William Hunting, set his mind upon the veterinary profession having a weekly journal of its own, he did pioneer work, the inestimable value of which can never be too greatly appreciated. The style of the paper was much the same as it is to-day, although it was not until after his death that his well-known portrait appeared on the front cover to remind those who have come after him of what the first editor was like. His dictum that "careful observation makes a skilful practitioner, but his skill dies with him—by recording his observations he adds to the knowledge of his profession and assists by his facts in building up the solid

XUM

edifice of pathological science" is one which should be committed to memory by every student and every member not only of a small profession like ours, but of every branch of medicine and surgery. In those days the paper was carried on in the intervals of a busy practice and the best time if one wanted to catch the editor at home was to be in the neighbourhood of his house a few minutes before midnight, knowing with a full certainty that one would be sure to meet him on his doorstep going out to put his letters in the late post.

To the publishers of that time, Messrs. H. & W. Brown, of Fulham Road, and to those practitioners who financed the venture must be given their due share of credit for they had at times many setbacks and disadvantages. However, these were all overcome and when it was decided by the National Veterinary Association to take over the publication and make the "Veterinary Record" its official weekly organ its progress was assured.

Personal

Mr. John Pollard, M.R.C.V.S., of 16, Mayfield Avenue, Halifax, for nearly 30 years veterinary inspector to the Halifax Corporation, who died on March 9, aged 62 years, left gross estate of the value of £10,147 19s. 9d., with net personalty £9,541 11s. 3d.

No doubt many of our readers will be visiting the Continent in connection with the XIIIth International Veterinary Congress, which is to be held at Zurich between August 21 and 25. This gives an opportunity for many veterinary surgeons to combine business with pleasure.

We have recently received from Travellers' Facilities, Ltd., First Avenue House, 45, High Holborn, W.C.1, Telephone Holborn 6251 and 2347, an illustrated brochure detailing holidays in Switzerland, varying from nine days, including travelling, to thirty days. The brochure gives full details of the Swiss Hotel Plan, which is remarkable in many ways. Under this scheme tickets can be issued to cover transit from the veterinary surgeon's home to Zurich and return, and the fixed price will include meals on the train going and return, season tickets on mountain railways, local railways and buses, also river steamers, hotel accommodation, gratuities, services of interpreters if required . . . in fact, everything to make the stay on the Continent as enjoyable and carefree as possible.

For those readers who intend visiting the Continent, we strongly advise them getting in touch with these people as speedily as possible, as undoubtedly there will be a great demand on their services.

XUM

Publishers' Notices

All communications should be addressed to 7 and 8, Henrietta Street, Covent Garden, London, W.C.2. Telephone: Temple Bar 8568. Telegrams: "Baillière Phone, London."

Letters for the Journal, literary contributions, reports, notices, books for review, exchanges, new instruments or materials, and all matter for publication (except advertisements) should be addressed to the Editor.

Copy of advertisements should be in the hands of the publishers—Baillière, Tindall and Cox—not later than the 25th of the month, or if proof is required, not later than the 23rd.

Binding Cases for Volume 93 and any other previous volumes can be obtained from the publishers. Price 2s. 9d. post free.

Annual Subscription, 21s. ($5.00 U.S.A. currency), post free.

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